

WHAT IS CLAIMED IS:

1. A biomagnetic field measuring apparatus comprising:
  - means for shielding external magnetic fields;
  - a bed for supporting an examinee;
  - a single unit or a plurality of units of SQUID magnetometers for detecting a biomagnetic field generated by said examinee;
  - a cryostat for keeping said SQUID magnetometers at a low temperature;
  - a drive circuit for driving said SQUID magnetometers;
  - a processing unit for collecting output signals of said drive circuit and processing said output signals; and
  - a display unit for displaying results of said processing,
- wherein said processing unit performs (1) a process for removing a magnetic field waveform generated by a mother's heart from a biomagnetic field waveform measured, (2) a process for obtaining a first template waveform of a magnetic field waveform generated by a fetal heart from a waveform, from which said magnetic field waveform generated by said maternal heart has been removed, (3) a process for obtaining a waveform of a cross correlation coefficient between said waveform from which said magnetic field waveform generated by said maternal heart has been removed and

said first template waveform, and (4) a process for detecting peaks from the waveform of said cross correlation coefficient, and wherein times when detected peaks occurred are displayed on said display unit.

2. A biomagnetic field measuring apparatus according to Claim 1, wherein said process (1) includes a process for obtaining a second template waveform of said magnetic field waveform generated by said maternal heart, a baseline correcting process for zeroing the values at an initial point and an end point of said second template waveform, and a process for removing said second template waveform, on which said baseline correcting process has been performed, from said measured biomagnetic field waveform.

3. A biomagnetic field measuring apparatus according to Claim 2, wherein said process (1) is performed by using as a reference signal said mother's electrocardiographic waveform measured concurrently with the detection of said biomagnetic field.

4. A biomagnetic field measuring apparatus according to Claim 1, wherein in said process (2), said first template waveform is obtained by a sum-averaging process.

5. A biomagnetic field measuring apparatus according to Claim 2, wherein said second template waveform is obtained by a sum-averaging process.

6. A biomagnetic field measuring apparatus

according to Claim 1, wherein said process (3) includes a process for obtaining waveforms of said cross correlation coefficients from waveforms of said biomagnetic fields measured by each SQUID magnetometer of said plurality of SQUID magnetometers and a process for obtaining an average waveform of said waveforms of said plurality of cross correlation coefficients obtained, and wherein said average waveform is used as the waveform of said cross correlation coefficients.